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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,032	09/15/2003	Anthony Joseph Maves	1388-008A	2561

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EXAMINER

IBRAHIM, MEDINA AHMED

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,032

Applicant(s)

MAVES, ANTHONY JOSEPH

Examiner

Medina A. Ibrahim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 49-57 are pending and are examined.

Objections

At claims 51-53, it is suggested that the colon after "comprising" be deleted.

Claim Rejections - 35 USC § 112, 2nd

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 49 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 49 is indefinite in the recitation of a " male sterile corn plant produced by the growing seed of inbred line 4VP500" because the specification does not define plants expressing all the physiological and morphological characteristics of 4VP500 as being male sterile, or as comprising a gene that confers male sterility; in fact, inbred line 4VP500 is male fertile according to the specification. For example, line 16 of page 14, criteria for selection of ears in various generations of the plants of inbred 4VP500 includes pollen shed ability. Therefore, it is unclear how a male-sterile plant can be produced from seed of male fertile inbred. Clarification is required to more clearly define the metes and bounds of the claim.

Claim 54 is indefinite because what is encompassed by a "decreased vigor" is unclear. Also, the phrase lacks comparative basis.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 54-57 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 54 is rejected because Applicant has not disclosed or provided guidance for how to identify the claimed inbred from a collection of other plants, or a repeatable process to reproduce the claimed seed. The claim encompasses a step of identifying inbred parent plants with decreased vigor. However, the specification does not describe what is encompassed by the decreased vigor. Also, the specification does not provide guidance for other means of identifying the inbred 4VP500 if plants with decreased vigor are not observed within the plant population. Therefore, one skilled in the art would not be able to practice the claimed method without undue experimentations.

Claims 55-57 are rejected because the specification does not provide guidance for the introduction of any single desired trait from a multitude of non-disclosed and uncharacterized donor breeding partners into 5XH577 by backcrossing or by any other means, wherein the introduction of the desired trait should result in successful expression of the desired trait but should not interfere with the expression of the remaining 5XH577 traits. Furthermore, no guidance has been provided for preventing

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the introduction of unwanted genetic material conferring undesirable agronomic traits from the donor-breeding partner into 5XH577. Furthermore, no guidance has been provided for the identification of genes that confer traits includes yield stability, industrial usage, yield enhancement, and enhanced nutritional quality.

While transformation of plants with a transgene for a desired trait by genetic engineering is well within the level of one skilled in the art, the state of the art teaches that it is unpredictable whether a gene or genes for conferring a phenotype in one plant genetic background may be transferred into the genetic background of another plant to confer the phenotype in said different plant. For example, Hunsperger et al (US Patent No. 5, 523, 520) disclosed a specific gene trait in the genetic background of one plant which has been introgressed into the genetic background of another plant of the same species, that didn't result in the expected transfer gene trait (column 3, lines 26-46).

Therefore, given the lack of guidance in Applicants' specification regarding transfer of traits by backcrossing in Applicant's corn line, the lack of guidance regarding the isolation of genes that confer traits such as yield stability, industrial usage, yield enhancement, and enhanced nutritional quality or their evaluation in particular corn genetic background, the state of the art and the unpredictability inherent in transferring by backcrossing, and lack of working examples, one skilled in the art would not be able to make and/or use the invention, without undue experimentations.

Written Description

Claims 50-57 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Federal Circuit court stated that a written description of an invention "requires a precise definition, such as by structure, formula [or] chemical name, of the claimed subject matter sufficient to distinguish it from other material". *University of California v. Eli Lilly and Co.*, 43 USPQ2d 1398 (Fed. Cir. 1997). The court also stated "naming a type of material generally known to exist, in the absence of knowledge as to what that material consists of is not a description of that material". *Id.* Further, the court stated that to adequately describe a claimed genus, Applicant must describe a representative number of the species of the claimed genus, and that one of skill in the art should be able to "visualize or recognize the identity of members of the genus".

Applicant has not described the morphological and/or genotypic characteristics for all hybrid corn plants and seeds produced by crossing the inbred corn line 4VP500 with another unidentified corn plant. Applicant describes inbred corn line 4VP500 having specific genotypic and phenotypic characteristics that distinguish the line from other corn lines. Applicant also describes inbred performance comparing 4VP500 to LH185 when crossed to the same testers and grown in the same environments. Such a performance comparison cannot be extended to any other hybrid plant that does not have both of the same parents, and are not representative of *all* hybrids produced using 4VP500 as only one parent and using a multitude of genetically and morphologically uncharacterized and unrelated corn plants as a second parent. Because a number of uncharacterized breeding partners and breeding generations have been employed,

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substantial variation in structure and phenotypes are expected among F1 plants/seed.

Therefore, the disclosure of a single inbred corn line 4VP500 would not provide adequate written description for all F1 hybrid and subsequent generation plants or method for using F1 plants to produce subsequent generation plants, absent further description. Accordingly, written description requirement is not satisfied.

Remarks

The claims are free of the prior art of record, given that the prior art does not teach or fairly suggest hybrid corn plant/seed produced from inbred 4VP500.

No claim is allowed.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Medina A. Ibrahim whose telephone number is (571) 272-0797. The Examiner can normally be reached Monday -Thursday from 8:00AM to 5:30PM and every other Friday from 9:00AM to 5:00 PM. Before and after final responses should be directed to fax nos. (703) 872-9306 and (703) 872-9307, respectively.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Dr. Amy Nelson, can be reached at (571) 272-0804.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

8/20/05

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MEDINA A. IBRAHIM
PATENT EXAMINER
Medina A. Ibrahim